

What is claimed is:

1. A liquid transfer apparatus comprising:

a capillary for aspirating liquid from one end thereof
by means of capillarity;

5 a pressure mechanism for pressurizing an inside of the
capillary from the other end of the capillary; and

a connection mechanism for bringing the other end of the
capillary into an ambient pressure or a state in which the outer
end of the capillary is connected to the pressure mechanism.

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2. The liquid transfer apparatus according to claim 1,

wherein the connection mechanism comprises:

a hermetic space formation member for forming a hermetic
space between the other end of the capillary and the pressure

15 mechanism; and

a switching mechanism for bringing the hermetic space
into a sealed state or into the ambient pressure by means of
switching action thereof.

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3. The liquid transfer apparatus according to claim 1,
wherein the connection mechanism comprises:

a capillary support member being brought into hermetic
contact with an outer periphery of the capillary; and

a pressure unit removably connected to the capillary
25 support member, wherein the pressure unit forms a hermetic space

between the other end of the capillary and the pressure mechanism when connected to the capillary support member.

4. The liquid transfer apparatus according to claim 3,
5 wherein the capillary support member has an elastic member for hermetically securing the capillary, and the pressure unit has a first pressure chamber with a diaphragm on one wall surface thereof for pressurizing the inside of the capillary from the other end of the capillary, an O-ring for removably connecting
10 the first pressure chamber to the capillary support member, and a second pressure chamber connected to the pressure mechanism for urging the diaphragm toward the first pressure chamber and pressurizing the inside of the first pressure chamber.

15 5. The liquid transfer apparatus according to claim 3, wherein the capillary support member has an elastic member for hermetically securing the capillary and the pressure unit has a first pressure chamber with a diaphragm on one wall surface thereof for pressurizing the inside of the capillary from the
20 other end of the capillary, and an O-ring for removably connecting the first pressure chamber to the capillary support member, and wherein the pressure mechanism has an urging member for urging the diaphragm toward the first pressure chamber and pressurizing the inside of the first pressure chamber.

6. The liquid transfer apparatus according to claim 3,
wherein the pressure mechanism has a heater attached to an outer
wall of the pressure unit for heating an internal pressure of
5 the pressure unit.

7. A reaction vessel comprising:

a vessel substrate having at least one recess formed
in one surface thereof; and

10 an elastic member for covering the surface of the vessel
substrate in which the recess is formed.

8. The reaction vessel according to claim 7, wherein the
vessel substrate has a discharge section formed on the bottom
15 of the recess so that the discharge section becomes ruptured
by pressure when the elastic member is urged toward the recess.

9. The reaction vessel according to claim 7, further
comprising:

20 a guide member having a through hole for guiding a capillary
to be penetrated through the elastic member or an urging member
which urges the elastic member toward the recess, toward the
recess, the through hole being formed in the position
corresponding to the position of the recess.

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10. The reaction vessel according to claim 7, further

comprising:

a pair of heat conductive members for sandwiching the vessel substrate and the elastic member.

- 5 11. The reaction vessel according to claim 10, wherein the heat conductive member has a through hole for guiding a capillary to be penetrated through the elastic member or a urging member which urges the elastic member toward the recess, toward the recess in the position corresponding to the position of
- 10 the recess.